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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/461,671	12/14/1999	PAUL WILKINSON DENT	8194-140IP2	4127

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EXAMINER
SMITH, SHEILA B

ART UNIT	PAPER NUMBER
2685	

DATE MAILED: 12/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/461,671	DENT
	Examiner	Art Unit
	Sheila B. Smith	2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-50 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-50 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-3,9,13,20-22,28,32-34,39-41,47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Posner et al (U. S. Patent Number 5,249,201).

Regarding claims 1, 13,32-34 and 39, Posner et al. discloses essentially all the claimed invention as set fourth in the instant application, further Posner et al. discloses a transmission of multiple carrier signals in a nonlinear system. In addition Posner et al discloses A transmitter that transmits from a common antenna at a plurality of radio frequencies, a plurality of radio channel frequency signals that are modulated with respective information modulation (reads on column 1 lines 35-50), the transmitter comprising, a plurality of modulators (16 a,16b) each modulator generating at least one constant amplitude; at least one saturated power amplifier (22) column 1 line 10, for each of the at least one constant amplitude;. However Posner et al. fails to disclose a coupling network that connects the outputs of the saturated power amplifiers in series to produce a combined signal that is applied to the common antenna.

Especially in view of the fact that Posner et al. does provide for the uses of a filter (24) that connects the outputs of the saturated power amplifiers (22) in series to produce a combined signal that is applied to the common antenna (25) as exhibited in figure 1 and disclosed in

column 8 lines 8-16. Further, the method used by Posner et al. in transmitting modulated information more than adequately meet the limitation.

Therefore, it would have been obvious to one of ordinary skill at the time the invention was made to modify Posner et al. by specifically providing for coupling network that connects the outputs of the saturated power amplifiers in series to produce a combined signal that is applied to the common antenna as taught by Posner et al. for the purpose of converting and transmitting signals.

Regarding claim 20, Posner et al. discloses everything claimed, as applied above (see claim 1) additionally, Posner et al. discloses A transmitter that transmits from a common antenna at a plurality of radio frequencies, a plurality of radio channel frequency signals that are modulated with respective information modulation (reads on column 1 lines 35-50), the transmitter comprising, a means for generating at least one constant amplitude (10), means for separately amplifying each amplitude(22a, 22b), means for serially coupling amplified signals (32) as exhibited in figure 2.

Regarding claims 2,9,21,28,40,47, Posner et al. discloses everything claimed, as applied above (see claim 1) additionally, Posner et al. disclose at least one constant amplitude, phase modulated drive signal is a single constant envelope modulation drive signal and wherein the information modulation is a constant envelope information modulation as in column 5 lines 50-59.

Regarding claims 3,22,41 Posner et al. discloses everything claimed, as applied above (see claim 1) additionally, Posner et al. disclose the constant envelope information modulation is at least one of frequency and phase modulation as in column 5 lines 50-59.

2. Claims 4-8,10-12,14-19,23-27,30,31,35-38,42-46,48-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Posner et al in view of Taira et al. (U. S. Patent Number 5,659,886).

Regarding claims 4,10,23,29,42,48, Posner et al. discloses everything claimed, as applied above (see claim 1) however, Posner et al. fails to specifically disclose the information modulation is at least one of analog voice modulation and digital data modulation.

In the same field of endeavor, Taira et al. further discloses a digital mobile transceiver with phase adjusting strip lines connection to a common antenna. In addition Taira discloses the information modulation is at least one of analog voice modulation and digital data modulation in column 4 lines 27-30.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Posner et al. by modifying a digital mobile transceiver with the information modulation is at least one of analog voice modulation and digital data modulation as taught by Taira et al. for the purpose of converting and transmitting signals.

Regarding claims 5,7,24,26,43, Posner et al. discloses everything claimed, as applied above (see claim 1) however, Posner et al. fails to specifically disclose the analog voice modulation is analog Frequency Modulation (FM).

In the same field of endeavor, Taira et al. further discloses a digital mobile transceiver with phase adjusting strip lines connection to a common antenna. In addition Taira discloses the analog voice modulation is analog Frequency Modulation (FM) in column 4 lines 27-30.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Posner et al. by modifying a digital mobile transceiver with the analog voice modulation is analog Frequency Modulation (FM) as taught by Taira et al. for the purpose of converting and transmitting signals.

Regarding claims 6,8,12,25,27,31,45,50, Posner et al. discloses everything claimed, as applied above (see claim 1) however, Posner et al. fails to specifically disclose the digital data modulation is at least one of Continuous Phase Modulation (CPM) and Gaussian Minimum Shift Keying (GMSK).

In the same field of endeavor, Taira et al. further discloses a digital mobile transceiver with phase adjusting strip lines connection to a common antenna. In addition Taira discloses the digital data modulation is at least one of Continuous Phase Modulation (CPM) and Gaussian Minimum Shift Keying (GMSK) in column 3 lines 35-45.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Posner et al. by modifying a digital mobile transceiver with the digital data modulation is at least one of Continuous Phase Modulation (CPM) and Gaussian Minimum Shift Keying (GMSK) as taught by Taira et al. for the purpose of converting and transmitting signals.

Regarding claims 11,14-19,30,35-38,44,46,49, Posner et al. discloses everything claimed, as applied above (see claim 1) however, Posner et al. fails to specifically disclose the

digital data modulation is at least one of linear 8_Phase Shift Keying (PSK) and TC/4 Differential Quadrature Phase Shift Keying (DQPSK).

In the same field of endeavor, Taira et al. further discloses a digital mobile transceiver with phase adjusting strip lines connection to a common antenna. In addition Taira discloses Quadrature Phase Shift which reads on the digital data modulation is at least one of linear 8_Phase Shift Keying (PSK) and TC/4 Differential Quadrature Phase Shift Keying (DQPSK) in column 3 lines 35-45.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Posner et al. by modifying a digital mobile transceiver with the digital data modulation is at least one of linear 8_Phase Shift Keying (PSK) and TC/4 Differential Quadrature Phase Shift Keying (DQPSK) as taught by Taira et al. for the purpose of converting and transmitting signals

Citation of Pertinent Prior Art

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Dent et al. (U. S. Patent Number 5,959,984) discloses dual mode satellite cellular terminal;

Li et al. (U. S. Patent Number 6,415,001) discloses system and process for shared frequency source multi-band transmitters and receivers;

Nago (U. S. Patent Number 5,974,101) discloses spread spectrum modulation communication apparatus for narrow band interference elimination;

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheila B. Smith whose telephone number is (703)305-0104. The examiner can normally be reached on Monday-Thursday 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 703-308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-6306 for regular communications and (703)308-6296 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

S. Smith
December 15, 2002

EDWARD F. URBAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600